### U.S. Department of the Interior • U.S. Geological Survey

# MINERAL INDUSTRY SURVEYS

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### TUNGSTEN IN NOVEMBER 1996

Based upon net production of intermediate tungsten products, including metal powder and tungsten carbide powder produced from hydrogen reduced metal powder, the U.S. industrial tungsten activity for November 1996 decreased by about 21% compared with that of October 1996, according to the U.S. Geological Survey. U.S. industrial tungsten activity for the first 11 months of 1996 was about 8% lower than for the same period of 1995. Reported consumption of tungsten in all enduse products through November 1996 decreased by about 4% compared with that through the same period of 1995.

**October** trade data are included in this issue. Trade data for November were unavailable at the time of publication and will appear in a subsequent issue.

The combined wolframite and scheelite prices from  $\underline{\text{Metal}}$   $\underline{\text{Bulletin}}$  were:

Low \$43/mtu WO<sub>3</sub> (\$39.01/stu WO<sub>3</sub>), December 1-31, 1996 High \$53/mtu WO<sub>3</sub> (\$48.10/stu WO<sub>3</sub>), December 1-31, 1996

#### **Update**

Canada Tungsten Inc., Toronto, is seeking to sell off its tungsten assets. The company's current tungsten assets include the Cantung property in the Northwest Territories, which has been shut down since 1986. It also holds the undeveloped Mactung property on the Yukon Territory-Northwest Territories border and the Hemerdon tungsten-tin deposit near Plymouth, England. Aur Resources Inc., Toronto, wants to increase its holdings of Canada Tungsten from 46% to 100% and has proposed a merger to Canada Tungsten's stockholders.<sup>1</sup>

<sup>&</sup>lt;sup>1</sup>American Metal Market, Dec. 22, 1996, p. 5.

## TABLE 1 U.S. SALIENT TUNGSTEN STATISTICS 1/

(Metric tons, tungsten content)

		Concentrate			In		
		Imports	Stocks,	Reported	Net		Stocks,
	Reported	for	end of	scrap	produc-	Reported	end of
Period	consumption	consumption	period 2/	consumption	tion 3/	consumption 4/	period 5/
1995: p/							
January-December	6,320	4,180	631	2,350	8,190	11,900	1,290
1996:							
January	479	310	486	261	718	993	1,220
February	475	162	438	186	933	1,000	1,360
March	504	155	559	223	845	957	1,440
April	580	148	694	236	787	973	1,510
May	415	403	654	200	303	1,070	1,550
June	551	365	721	199	473	947	1,560
July	506	383	633	273	866	935	1,780
August	415	183	695	250	525	1,110	1,640
September	422	521	601	134	524	836	1,550
October	342	181	803	207	633	883	1,490
November	413	NA	669	140	502	774	1,450
Total	5,100	2,810	XX	2,310	7,110	10,500	XX

p/ Preliminary. NA Not available. XX Not applicable.

TABLE 2 U.S. PRODUCTION, CONSUMPTION, AND STOCKS OF AMMONIUM PARATUNGSTATE, BY MONTH 1/

(Metric tons, tungsten content)

Period	Production	Consumption	Stocks, end of period 2/
1995: p/	-		
January-December	2,580 3/	7,690	338
1996:			
January	565	598	370
February	W	630	366
March	556	782	357
April	W	742	319
May	W	619	299
June	W	531	391
July	677	639	W
August	592	673	576
September	551	572	570 r/
October	539	866	507 r/
November	563	597	522
Total	4,040	7,250	XX

p/ Preliminary.  $\,$ r/ Revised.  $\,$ W Withheld to avoid disclosing company proprietary data.  $\,$ XX Not applicable.

<sup>1/</sup> Data are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Reported by consumers.

<sup>3/</sup> Net production of tungsten metal powder, tungsten carbide powder, chemicals, and other products.

<sup>4/</sup> Includes data on tungsten carbide powder from secondary sources.

<sup>5/</sup> Reported by producers.

<sup>1/</sup> Data are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Producers and consumers.

<sup>3/</sup> Excludes seven months of withheld data.

#### 

(Metric tons, tungsten content)

	1	Net production 2/				
		1996	_	Stocks at end of period		
			Year		1996 November	
Product	1995 p/	November	to date	1995 p/		
Metal powder	2,910	234	3,570	818	912	
Tungsten carbide powder	_					
(made from metal powder)	5,280	268	3,540	348	437	
Cast and crystalline	_					
carbide powder; other	W			W	W	
Chemicals	W	W	W	126	104	
Total	8,190	502	7,110	1,290	1,450	

p/ Preliminary. W Withheld to avoid disclosing company proprietary data.

 ${\it TABLE~4}$  U.S. REPORTED CONSUMPTION, BY END USE, AND CONSUMER STOCKS OF TUNGSTEN PRODUCTS IN NOVEMBER 1996 1/

(Metric tons, tungsten content)

		Tungsten	Tungsten	Scheelite		Other		Total
	Ferro-	metal	carbide	(natural,	Tungsten	tungsten		year to
End use	tungsten	powder	powder	synthetic)	scrap 2/	materials 3/	Total	date
Steel:								
Stainless and heat-resisting	W		W		W		W	W
Alloy	3						3	22
Tool	18						18	157
Total	21		W		W		21	179
Superalloys		W	2		14	2	18	198
Alloys (excludes steels and superalloys):								
Cutting and wear-resistant materials		W	465		W	(5/)	465	6,020
Other alloys 4/		W	W		W		W	1
Mill products made from metal powder		W					W	360
Chemical and ceramic uses		W	W			W	W	W
Miscellaneous and unspecified	W	32	238		W	W	270	3,710
Total	21	32	705 6/		14	2	774	XX
Total consumption, year to date	286	604	9,210 6/		162	209		10,500
Stocks, November 30, 1996	35	42	509 6/	1	24	11	622	XX

W Withheld to avoid disclosing company proprietary data. XX Not applicable.

<sup>1/</sup> Data are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Gross production less quantity used to make other products in table.

<sup>1/</sup> Data are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Does not include that used in making primary tungsten products.

<sup>3/</sup> Includes tungsten chemicals.

<sup>4/</sup> Includes welding and hard-facing rods and materials and nonferrous alloys.

<sup>5/</sup> Less than 1/2 unit.

<sup>6/</sup> Based on reported consumption plus information from secondary sources; includes estimates.

 ${\bf TABLE~5} \\ {\bf U.S.~IMPORTS~FOR~CONSUMPTION~OF~TUNGSTEN,~BY~COUNTRY~1/}$ 

(Metric tons, tungsten content)

Period and country	Con- cen-	Ammonium	Ferro-	Lumps, grains,	Tungsten			Total year to
of origin	trate	tungstates	tungsten	powders	carbide	Other e/ 2/	Total	date
1995:	_							
Total	4,180_	1,290	652	312	476	3,260	10,200	XX
1996:	_							
August	183	232	29	68	29	120	661	XX
September	521	28	30	47	55	200	881	XX
October:	_							
Australia								3
Austria						3	3	20
Belgium				1			1	4
Bolivia	3						3	470
Canada				1	4		5	64
China		128	15		18	126	287	3,450
Czech Republic								9
France						(3/)	(3/)	22
Germany		(3/)		2	19	1	22	194
Hong Kong								195
Hungary						1	1	6
Ireland						10	10	10
Israel						1	1	9
Japan				(3/)		3	3	64
Kazakstan								126
Korea, Republic of					(3/)		(3/)	6
Mexico						(3/)	(3/)	46
Netherlands						(3/)	(3/)	208
Peru							23	350
Portugal								462
Russia	154		8			(3/)	162	1,250
Sweden				7			7	55
Switzerland						1	1	7
Thailand								22
United Kingdom				20		1	21	425
Uzbekistan								30
Total	181	128	23	31	41	146	550	XX
Total, year to date	2,810	1,240	435	381	310	2,340	XX	7,510

e/ Tungsten content estimated in part. XX Not applicable.

Note: Imports of waste and scrap in October 1996 totaled 198 metric tons, tungsten content.

Source: Bureau of the Census.

<sup>1/</sup> Data are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Includes calcium, potassium, and sodium tungstates, mixtures and materials in chief value tungsten, tungsten oxide, tungstic acid, unwrought ingots and shot, other unwrought tungsten and materials, wrought tungsten, and other tungsten compounds.

<sup>3/</sup> Less than 1/2 unit.

## $\label{eq:table 6} \text{U.S. EXPORTS OF TUNGSTEN, BY COUNTRY 1/}$

(Metric tons, tungsten content)

Period and country of destination	Con- cen- trate	Ammonium tungstates	Metal powder e/	Tungsten carbide	Other e/ 2/	Total	Total year to date
1995:	_						
Total	5	238	484	1,670	369	2,760	XX
1996:							
August	(3/)		12	113	19	140	XX
September		19	31	90	15	155	XX
October:							
Argentina	- 						3
Australia	- 			(3/)	(3/)	1	13
Austria	-			4		4	30
Bahamas							1
Belgium	- 	37		(3/)		37	65
Brazil	- 		(3/)	(3/)	(3/)	(3/)	8
Canada	- 		3	35	5	43	367
China	- 				(3/)	(3/)	23
Denmark	- 			1		1	4
France	- 				(3/)	(3/)	62
Germany	- 	4	(3/)	23	5	33	379
Guatemala	-		(3/)				1
Honduras	-						18
Hong Kong	-						8
India	-			(3/)	1	1	16
Ireland				(3/)	(3/)	(3/)	3
Israel	-			(3/)	(3/)	1	47
Italy				7	(3/)	7	110
Japan	(3/)			1	2	4	114
Korea, Republic of	_ (3/)			(3/)		(3/)	10
Luxembourg				(3/)		(3/)	16
Mexico	-			(3/)	2	2	32
Netherlands				2	11	13	24
New Zealand			(3/)	11		11	11
Portugal			(3/)				2
Saudi Arabia							1
Singapore				3	(3/)	3	34
South Africa				2		2	25
			(2)				9
Spain			(3/)	 15	1	2 15	95
Sweden			(3/)		(3/)		
Switzerland			1	(3/)		2	9
Taiwan Luited Kine de m			(2.0	2	1	3	
United Kingdom	- <b>-</b>		(3/)	3	(3/)	4	122
Venezuela	-				(3/)	(3/)	3
Vietnam							2
Total	(3/)	41	7	117	32	197	XX
Total, year to date	17	126	213	1,100	251	XX	1,710

e/ Tungsten content estimated in part. XX Not applicable.

Note: Exports of waste and scrap in October 1996 totaled 25 metric tons, tungsten content.

Source: Bureau of the Census.

<sup>1/</sup> Data are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Includes calcium, potassium, and sodium tungstates, mixtures and materials in chief value tungsten, tungstic acid, unwrought ingots and shot, other unwrought tungsten and materials, wrought tungsten, and other tungsten compounds.

<sup>3/</sup> Less than 1/2 unit.